

## ABSTRACT

The present invention provides a controller for a water softener having an ion exchange resin capable of receiving hard water ions from hard water during a softening step and releasing the hard water ions during a regeneration step. The controller includes a processor programmed to cause termination of the softening step and initiate the regeneration step when both a first and a second condition are met. The first condition is met when the resin is saturated with hard water ions, and the second condition is met when current demand for soft water is at or below a prescribed flow rate.